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Letter to the Editor

CSI at global forum on cardiovascular disease prevention in clinical practice at ESC-EuroPrevent 2013

Cardiovascular diseases (CVD) remain the grim reaper's primary calling card.[1] Mortality and morbidity from CVDs, both coronary heart disease (CHD) and stroke, have declined in most high income countries and presently the largest burden has shifted to middle and low income countries.[2] Indeed, India and China account for more cases of CVD than all developed countries put together.[1] Unique characteristics of CVD in low and middle income countries such as India are premature onset, high mortality, increasing burden and regional variations.[3] The good news is that most premature CVD can be prevented and controlled by a combination of changes in policy, healthcare programs, process implementation, physician education and task shifting, practice paradigms, population-wide interventions, primary prevention, better patient management and patient empowerment for risk factors and disease prevention and management (Table 1).

1. UN high level meeting on non-communicable diseases and WHO

United Nations (UN) convened a special high-level meeting to develop consensus on prevention and control of non-communicable diseases (NCD) in September 2011. The main focus of this meeting was worldwide epidemic of premature non-communicable diseases, especially in developing countries.[4] In the last 18 months important targets for action have been proposed.[5] Almost all the targets are focused on cardiovascular diseases (Table 2).

2. Global forum on CVD prevention in clinical practice

To achieve these targets, there is a need to form an alliance of all interested stake holders in cardiovascular disease prevention and management to facilitate the implementation of United Nation (UN) declaration on prevention and control of cardiovascular diseases (25 × 25 resolution).[6] European Society of Cardiology (ESC) and European Association for Cardiovascular Disease Prevention and Rehabilitation (EACPR) organized a meeting during the EuroPrevent 2013 conference at Rome on 18th April 2013 to discuss possibilities to form an organization that would focus on CVD prevention in clinical practice. The invitees included representatives from World Health Organization and elected officials of World Heart Federation, American Heart Association, European Society of Cardiology, American Council of Cardiovascular Prevention and Rehabilitation, American Society of Preventive Cardiology, Canadian Society of Preventive Cardiology, Inter-American Society of Cardiology and national representatives from twenty countries including large countries such as China, India, Saudi Arabia, Japan, Brazil, Russia, etc, along with many sub-national organizations. Details of the meeting are available at ESC website.[7]

The targets proposed by the WHO (Table 2) were presented at the global forum by Shanthi Mendis (WHO, Geneva). She highlighted that policy initiatives at governmental level are important for control of most of the cardiovascular risk factors and have immediate impact in reducing morbidity and mortality. Such initiatives have led to significant decline in CVD mortality in Western Europe and North America by 30–80% in last three decades.[8] She pointed out that six of the proposed targets (physical inactivity, sodium intake, tobacco use, high BP, drug therapy coverage and availability of essential medicines and technologies) are focused on cardiovascular diseases. WHO and World Heart Federation have developed specific directives for policy changes focused on strategies for effective national CVD control program with financial and management support, risk factor control programs on smoking cessation, enhanced physical activity, dietary modulation, and better risk factor and disease management.[9] These initiatives were presented by Johanna Ralston (World Heart Federation, Geneva). She suggested a multipronged policy initiative, endorsed by the WHO, with focus on implementing national CVD control programs, adequate healthcare financing and public health insurance for preventive and curative treatment, smoking and tobacco control programs, promotion of healthy diet with legislative control of saturated fats, trans fats, salt and alcohol and promotion of fruits and vegetables; increased physical activity through better urban planning, worksite and school-based interventions and aggressive primary prevention for control of hypertension, dyslipidemia and diabetes.

Table 1 – Nine P's of prevention.

Domain	Intervention
1 Policy change	Strengthening of policies related to smoking, tobacco use, alcohol abuse, dietary fats and trans fats intake, fruits and vegetable intake, increased physical activity, school health programs, worksite intervention, public health education and promotion of health literacy.
2 Program development	Specific programs to address four major behavioral domains – smoking/tobacco use, alcohol abuse, healthy diet, physical activity; three risk factors – high blood pressure, high cholesterol and diabetes; and better disease management.
3 Process implementation	Development and implementation of suitable practice algorithms for use by various healthcare professionals and other stake holders.
4 Physician education	Medical education to be focused on all the major health problems in the country; specific focus on non-communicable diseases. Changes in undergraduate and postgraduate education for all healthcare providers.
5 Practice paradigm	Shift from ad-hoc acute disease model to continuous care chronic disease model.
6 Population-wide interventions	Interventions to control primordial cardiovascular risk factors – smoking, alcohol abuse, physical inactivity and unhealthy diet.
7 Primary prevention	Control of important risk factors – smoking and tobacco use, high blood pressure, high LDL cholesterol, low HDL cholesterol, diabetes and the metabolic syndrome using appropriate lifestyle and therapeutic strategies.
8 Patient management	Acute cardiovascular care using coronary care units and stroke units. Effective long term care and secondary prevention.
9 Patient empowerment	Promotion of risk factor and disease self management; medication and lifestyle adherence.

Table 2 – Nine proposed voluntary global targets for prevention and control of non-communicable diseases (mainly cardiovascular disease) to be achieved by 2025: WHO Global Action Plan.

Domain	Intervention
1 Mortality and morbidity	25% relative reduction in overall mortality from cardiovascular disease, cancer, diabetes or chronic respiratory diseases
2 Harmful use of alcohol	10% relative reduction in harmful use of alcohol
3 Physical inactivity	10% relative reduction in prevalence of insufficient physical activity
4 Salt/sodium intake	30% relative reduction in mean population intake of salt/sodium
5 Tobacco use	30% relative reduction in prevalence of current tobacco use in aged 15+ years.
6 Raised blood pressure	25% relative reduction in the prevalence of raised BP or contain the prevalence of raised BP
7 Diabetes and obesity	Halt the rise in diabetes and obesity
8 Drug therapy to prevent heart attacks and strokes	At least 50% of eligible people receive drug therapy and counseling to prevent heart attacks and strokes.
9 Essential medicines and basic technologies for treatment	80% availability of affordable basic technologies and essential medicines (generics) required to treat major non-communicable disease in both public and private facilities.

Strategies to translate research into practice and different ESC initiatives were discussed by EACPR president Stefan Gielen (Halle), David Wood (London), and Ian Graham (Dublin) while international experiences were presented by Sidney Smith (Atlanta), Donna Arnett (American Heart Association, Dallas), and others. Focus was to translate the prevention and management strategies into practice.[7] Better primary prevention including control of hypertension, hypercholesterolemia and diabetes was stressed.

There are limited data on primary prevention in different countries. The most robust data are available in Europe and USA and shows poor adherence to lifestyle changes and drugs advised for control of risk factors.[10] Reasons were discussed and strategies proposed including use of community health workers and combination polypharmacy. There is poor implementation of secondary prevention approaches in different countries of the world. EUROASPIRE studies in Europe[11] and PURE study internationally[12] reported significant gaps in use of various evidence based therapies in patients with known cardiovascular diseases. Strategies to improve secondary prevention practices were also presented and WHO guidelines on prevention of recurrent heart attacks and strokes in low and middle income populations were discussed.[13] Representatives from several countries including China, India, Russia, Brazil, Canada, USA, Saudi Arabia, Iran, etc presented national data and highlighted needs and challenges for prevention in their nation.[7]

3. Cardiological Society of India at the global forum

Presentation from India highlighted the high mortality rates, premature onset of disease, regional variations and increasing burden from cardiovascular diseases.[3] A brief outline of the National Program on Control of Cardiovascular Disease, Diabetes, Cancer and Stroke was presented. Currently this program is focused on screening of risk factors using tool of opportunistic screening at primary and secondary healthcare centers in 100 districts of the country. It is been planned to merge this program into the existing National Rural Health Mission and proposed National Urban Health Mission or National Health Mission.[14]

A multipronged strategy to improve practices for prevention and management of cardiovascular diseases was presented (Table 3). Various policy interventions and

Table 3 – Existing and proposed initiatives for cardiovascular disease prevention and control in India.

Domain	Intervention
Policy initiatives	A. Social policies • Tobacco control policies, FCTC • Right to education act • Job guarantee • Women's health promotion programs B. Financial policies • Universal health insurance • Below-poverty-line insurance C. Pharmaceutical policies • Increase in essential drug list • Drug price control • Free supply of essential medicines
Population based interventions	A. School health programs • Mid-day meal scheme • Physical education programs • Health literacy B. Worksite interventions C. High-risk population interventions
High risk approach	A. Enhancing professional education (physicians, etc) B. Facilities for acute disease management C. Task shifting for risk factor management and long-term care D. Use of technology and personalized medicine

Table 4 – Proposals for international collaborations in a global alliance for CVD prevention and management.

Domain	Intervention
Health policy	1. International advocacy for inclusion of CVD In national development agenda in India. 2. Creation of barriers in international trade in CVD unfriendly practices (tobacco, alcohol, oils, processed foods) 3. Promotion of CVD healthy policies. Lowering of World Trade Organization barriers for evidence-based cardiovascular pharmaceuticals.
Healthcare systems	1. Technological support for development of CVD management infrastructure. 2. Processes for rapid appropriate-technology-transfer. 3. Better medical and health education.
Healthcare delivery	1. Robust primary care, focused on overall health and not on vertical disease control programs. 2. Models for district hospital based advanced CVD care. 3. Development of tertiary care facilities as referral centers. 4. Nurse-practitioner and pharmacists based healthcare delivery. 5. Mechanisms for clinical audits and feedbacks using scientifically validated methods.
Healthcare research	1. Clinical audits and registries as quality improvement research tools. Lessons from large ESC-European, UK and US registries. 2. Technology transfer for creation of registries. 3. Promotion of health services research. 4. Research in primary prevention. 5. Use of non-physician healthcare workers for CVD management. 6. Use of polypills and other fixed dose combinations in CVD prevention and disease management. 7. Appropriateness criteria and issues of over-treatment.

population based and high risk strategies were discussed.[15] These strategies can potentially lead to significant improvement in prevention and control of cardiovascular disease in India. Cardiological Society of India could collaborate with various international agencies and organizations in this effort. The following strategies were outlined (Table 4).

There is a need to create a CVD-friendly general climate in India and CVD-friendly policies need to be developed among politicians, press, physicians and patients. There should be a rapid policy to program implementation pathway and there is a need to link physicians with public health community. Ultimately, it is the patient empowerment that would lead to better prevention and control of CVD in India.

4. The way forward

The meeting concluded with a call to form a global alliance for CVD prevention. Professors Geilen and Wood emphasized that the alliance shall not overlap with the World Heart Federation or issue guidelines itself, rather, it would play a role in stimulating and assisting with guidelines and standards, education and training, health service provision, research and leadership. Each organization with a professional role in cardiovascular prevention and rehabilitation can send two representatives to the alliance which will be led by six such nominated representatives per WHO-defined region for a total of 36 members in the leadership forum. A secretary, deputy and 10 ambassadors will be elected from among the representatives for a 3-year term to execute the alliance strategies.

A five-pronged agenda to address strategically important issues in prevention, management and control of cardiovascular was adopted. The agenda included focus on (i) development of standards of care for CVD prevention and management and guidelines, (ii) education and training of health professionals of all categories, (iii) health services strengthening for preventive and rehabilitative care, (iv) promotion of research in cardiovascular epidemiology and prevention, and (v) building national and international leadership in prevention and rehabilitation.

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